JSPM's
JAYAWANT INSTITUTE OF MANAGEMENT STUDIES
(NAAC Accredited – 'A' Grade)
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Lab Assignment No. 1

Subject: Knowledge Representation & AI, ML, DL

Last Date of Submission: 5th August 2024

Q.1 Write a Program to predict the diabetes disease using Linear Regression.

Dataset: from sklearn import linear_model, datasets
df=datasets.load_diabetes()

1. Find out the intercept and coefficient of Linear Regression Model. (reg.coef_ , reg.intercept_)
2. Find out accuracy and r2 value to check performance of model (accuracy=mean_squared_error(ytest,ypred), reg.score(x,y) , r2_score(ytest,ypred))
3. Draw the linear regression best fit line with actual data

(x and y values: x=df.data[:,np.newaxis,2] y=df.target)

Q.2 Write a Program to predict the sales using Linear Regression.

Dataset: df= pd.read_csv("/content/advertising.csv")

1. Find out the intercept and coefficient of Linear Regression Model. (reg.coef_ , reg.intercept_)
2. Find out accuracy and r2 value to check performance of model (accuracy=mean_squared_error(ytest,ypred), reg.score(x,y) , r2_score(ytest,ypred))
3. Draw the pairplot and linear regression best fit line with actual data

```
import seaborn as sns
sns.pairplot(df, x_vars=['TV', 'Radio','Newspaper'],y_vars='Sales',
kind='scatter')
plt.scatter(X_train, y_train)
plt.plot(X_train, 6.948 + 0.054*X_train, 'r')
plt.show()
```

Q.3 Write a Program to predict the house price using Linear Regression.

Dataset: df= pd.read_csv("/content/housing.csv")

1. Find out the intercept and coefficient of Linear Regression Model.
2. Find out accuracy and r2 value to check performance of model
3. Draw the pairplot and linear regression best fit line with actual data

Q.4 Write a Program to predict the BMI Index using Linear Regression.

Dataset: df= pd.read_csv("/content/bmi.csv")

1. Find out the intercept and coefficient of Linear Regression Model.
2. Find out accuracy and r2 value to check performance of model
3. Draw the pairplot and linear regression best fit line with actual data

Q.5 Write a Program to predict the salary using Linear Regression.

Dataset: df= pd.read_csv("/content/salary.csv")

1. Find out the intercept and coefficient of Linear Regression Model.
2. Find out accuracy and r2 value to check performance of model
3. Draw the pairplot and linear regression best fit line with actual data